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UNITED STATES DISTRICT COURT

DISTRICT OF NEVADA

3M COMPANY, and 3M INNOVATIVE
PROPERTIES COMPANY,

Plaintiffs,

v.

TOVIS NORTH AMERICA, TOVIS COMPANY
LIMITED, and SCIENTIFIC GAMES
CORPORATION,

Defendants.

Case No.: 2:18-cv-01563

COMPLAINT

JURY TRIAL DEMANDED

Plaintiffs 3M Company and 3M Innovative Properties Company (collectively,
“Plaintiffs” or “3M”) bring this action against Defendants Tavis North America, Tavis

1 Company Limited (collectively, “Tovis”), and Scientific Games Corporation (“SGC”) (collectively, “Defendants”) to stop Defendants’ infringement of 3M’s patented touch screen sensor technology. For its Complaint against Tovis and SGC, 3M hereby alleges and states as follows.

2 NATURE OF THE ACTION

3 1. This is a civil action arising under the laws of the United States, 35 U.S.C. § 1, *et seq.*, for patent infringement. 3M seeks damages and injunctive relief as provided in 35 U.S.C. §§ 281, 283-85.

4 THE PARTIES

5 2. Plaintiff 3M Company is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business at 3M Center, St. Paul, Minnesota 55133.

6 3. Plaintiff 3M Innovative Properties Company is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business at 3M Center, St. Paul, Minnesota 55133.

7 4. Upon information and belief, Defendant Tovis North America is a corporation organized and existing under the laws of the State of Nevada, having its headquarters and principal place of business at 5360 Capital Court, Suite 103, Reno, Nevada 89502, and is a wholly owned subsidiary of Tovis Company Limited. On information and belief, Tovis North America has designated H. Anna Park as an agent for service of process at 9696 Glen Ridge Drive, Reno, Nevada 89521. On information and belief, Tovis North America has a place of business at 6643 Schuster Street, Las Vegas, Nevada 89118.

8 5. Upon information and belief, Defendant Tovis Company Limited is a company organized and existing under the laws of South Korea, having its headquarters and principal place of business at 7-10 Songdo-don, Yeonsu-gu, Incheon, 790-829, South Korea. On information and belief, Tovis Company Limited sells Tovis branded products through its subsidiary Tovis North America in the United States.

12. Alternatively, Defendant Tovis Company Limited is subject to personal jurisdiction at least under Rule 4(k)(2), Federal Rules of Civil Procedure. Should Defendant Tovis Company Limited argue that it is not amenable to personal jurisdiction in the state of Nevada, then, on information and belief, there is no state in the United States where personal jurisdiction is proper. As such, (1) Plaintiffs' claim arises under federal law, (2) Defendant Tovis Company Limited is not subject to personal jurisdiction in the courts of any state, and (3) the exercise of jurisdiction satisfies due process requirements; thus, personal jurisdiction is proper before this Court under Rule 4(k)(2), Federal Rules of Civil Procedure.

13. Venue is proper in this Court under 28 U.S.C. §§ 1391(b) and (c) and 28 U.S.C. § 1400(b) based on the information and belief that the Defendants have committed or induced acts of infringement, and/or advertise, market, sell, and/or offer to sell products, including infringing products, in this judicial district.

THE PATENTS-IN-SUIT

14. 3M conducts and has conducted extensive research, development, and testing to create touch screen sensors possessing superior quality.

15. 3M has applied for and obtained several patents to protect its intellectual property in its touch screen sensor technology, including U.S. Patent No. 8,179,381 ("the '381 Patent"), U.S. Patent No. 8,274,494 ("the '494 Patent"), U.S. Patent No. 8,704,799 ("the '799 Patent"), and U.S. Patent No. 9,823,786 ("the '786 Patent"). These patents are collectively referred to herein as the "Patents-In-Suit."

16. The '381 Patent, entitled "TOUCH SCREEN SENSOR," was duly and legally issued by the United States Patent and Trademark Office on May 15, 2012. The '381 Patent generally relates to a touch screen sensor comprising a visible light transparent substrate with an electrically conductive micropattern on or in the visible light transparent substrate, where the micropattern exhibits substantially uniform shadowed area fraction.

17. The '494 Patent, entitled "TOUCH SCREEN SENSOR HAVING VARYING SHEET RESISTANCE," was duly and legally issued by the United States Patent and Trademark

1 Office on September 25, 2012. The ‘494 Patent generally relates to a touch screen sensor
2 comprising a visible light transparent substrate with an electrically conductive micropattern on or
3 in the visible light transparent substrate, where the micropattern includes two regions exhibiting
4 different sheet resistances.

5 18. The ‘799 Patent, entitled “TOUCH SCREEN SENSOR HAVING VARYING
6 SHEET RESISTANCE,” was duly and legally issued by the United States Patent and Trademark
7 Office on April 22, 2014. The ‘799 Patent generally relates to a touch screen sensor comprising
8 a visible light transparent substrate with an electrically conductive micropattern on or in the
9 visible light transparent substrate, where the micropattern includes two regions having different
10 meshes.

11 19. The ‘786 Patent, entitled “TOUCH SCREEN SENSOR,” was duly and legally
12 issued by the United States Patent and Trademark Office on November 21, 2017. The ‘786
13 Patent generally relates to a touch screen sensor comprising a visible light transparent substrate,
14 an electrically conductive micropattern on or in the visible light transparent substrate, where the
15 micropattern includes a visible light transparent conductive mesh region and a larger feature that
16 is not transparent.

17 20. True and correct copies of the ‘381 Patent, the ‘494 Patent, the ‘799 Patent, and
18 the ‘786 Patent are attached to this complaint as Exhibit A, Exhibit B, Exhibit C, and Exhibit D,
19 respectively.

20 21. All right, title, and interest in and to the Patents-In-Suit have been assigned to 3M
21 Innovative Properties Company, which is the sole owner of the Patents-In-Suit. 3M Company is
22 the exclusive licensee of the Patents-In-Suit.

23 **DEFENDANTS’ INFRINGING PRODUCTS**

24 22. On information and belief, Tovis has directly infringed and is continuing to
25 directly infringe one or more claims of the Patents-In-Suit, literally and/or under the doctrine of
26 equivalents, by making, using, offering to sell, and/or selling within the United States, and/or
27 importing into the United States, metal mesh touch screen products, as well as other sensors and

1 displays that utilize metal mesh touch sensors, collectively the “Accused Products.” Two
2 examples of such metal mesh touch screen products are the Tovis Co. Ltd. Model No.
3 L24C5LT1BY-BKL (“the Tovis L24 Display”) and Tovis Co. Ltd. Model No. L43E5LT1BY-
4 VJH (“the Tovis L43 Display”).

5 23. The Tovis L24 Display and the Tovis L43 Display include touch screen sensors
6 with an electrically conductive micropattern that is disposed on or in a visible light transparent
7 substrate. The micropattern in the Tovis L24 Display includes a first region within a touch
8 sensing area having conductive traces that are between 0.5 and 10 micrometers in width. The
9 first region micropattern is visible light transparent and has substantially uniform shadowed area
10 fraction. In the Tovis L24 Display and the Tovis L43 Display, the first region micropattern has
11 between 90% and 99% open area. The micropattern in the Tovis L24 Display and the Tovis L43
12 Display includes a second region with metal traces and a larger feature that is not transparent. In
13 the Tovis L24 Display and the Tovis L43 Display, the first region and the second region include
14 the same metal at approximately the same thickness. An image of Tovis’ labeling on the Tovis
15 L24 Display is attached as Exhibit E and an image of Tovis’ labeling on the Tovis L43 Display is
16 attached as Exhibit F.

17 24. On information and belief, Tovis offers for sale and has sold the Accused
18 Products to customers in this District, including SGC. On information and belief, the Accused
19 Products, specifically at least the Tovis L24 Display and the Tovis L43 Display, have been sold
20 to SGC.

21 25. On information and belief, SGC has directly infringed and is continuing to
22 directly infringe one or more claims of the Patents-In-Suit, literally and/or under the doctrine of
23 equivalents, by making, using, offering to sell, and/or selling within the United States, and/or
24 importing into the United States, the Accused Products and/or gaming cabinets including the
25 Accused Products. For example, SGC makes, uses, offers for sale and/or sells the TwinStar
26 Cabinet and TwinStar J43 Cabinet to customers in this District. On information and belief,
27 SGC’s TwinStar Cabinets include the Tovis L24 Display and SGC’s TwinStar J43 Cabinets

1 include the Tovis L43 Display. These SGC products are marketed and described on SGC's
2 website at: <https://www.sggaming.com/games/Scientific-Games/TwinStar>, and
3 <https://www.sggaming.com/games/Bally/twinstar-j43>, respectively. Copies of these webpages
4 are attached as Exhibits G and H. In addition, on information and belief, SGC offers for sale
5 and/or sells metal mesh touch screen products, such as the Tovis L24 Display and the Tovis L43
6 Display, for repair and/or replacement purposes.

7 **3M'S CLAIM OF INFRINGEMENT OF**
8 **THE PATENTS-IN-SUIT**

9 26. 3M incorporates by reference the allegations in paragraphs 1 through 25, as if
10 fully set forth herein.

11 27. On information and belief, Tovis and SGC have each directly infringed, literally
12 and/or under the doctrine of equivalents, one or more claims of the '381 Patent, including at least
13 Claims 14 and 22.

14 28. For example, Claim 14 recites:

15 A touch screen sensor, comprising:

16 a visible light transparent substrate; and

17 an electrically conductive micropattern disposed on or in the visible light
18 transparent substrate, the micropattern comprising a first region micropattern within a
19 touch sensing area;

20 wherein the first region micropattern includes conductive traces with width
21 between about 0.5 and 10 micrometers;

22 wherein the first region micropattern is visible light transparent and having
23 between 90% and 99.9% open area; and

24 wherein for the first region micropattern having 5 millimeter by 5 millimeter
25 square regions, none of the square regions have a shadowed area fraction that differs by
26 greater than about 75% from the average for all of the square regions.
27

1 29. The L24 Display is a touch screen sensor. The L24 Display's sensor includes a
2 visible light transparent substrate, and there is a silver micropattern disposed on or in the visible
3 light transparent substrate. The L24 Display's micropattern includes a first region micropattern
4 within a touch sensing area. The L24 Display's first region micropattern includes conductive
5 traces with a mean trace width of about 6 micrometers. The L24 Display's first region
6 micropattern is visible light transparent and has a mean open area of about 97%. The L24
7 Display's first region micropattern has a maximum difference in shadowed area fraction of less
8 than about 25% from the mean shadowed area fraction.

9 30. In another example, Claim 22 recites:

10 A touch screen sensor, comprising:

11 a visible light transparent substrate; and

12 an electrically conductive micropattern disposed on or in the visible light
13 transparent substrate, the micropattern comprising a first region micropattern within a
14 touch sensing area;

15 wherein the first region micropattern includes a metallic linear electrically
16 conductive features have a width between about 1 and 10 micrometers;

17 wherein first region micropattern is visible light transparent and having between
18 about 90% and 99.5% open area and wherein the first region micropattern including
19 selective breaks in conductive traces within an otherwise continuous and uniform mesh;

20 wherein the first region micropattern can be subdivided into 5 millimeter by 5
21 millimeter square regions and wherein none of the square regions have a shadowed area
22 fraction that differs by greater than about 75% from the average for all of the square
23 regions.

24 31. The L24 Display is a touch screen sensor. The L24 Display's sensor includes a
25 visible light transparent substrate, and there is a silver micropattern disposed on or in the visible
26 light transparent substrate. The L24 Display's micropattern includes a first region micropattern
27 within a touch sensing area. The L24 Display's first region micropattern includes silver linear

1 electrically conductive traces with a mean trace width of about 6 micrometers. The L24
2 Display's first region micropattern is visible light transparent and has a mean open area
3 percentage of about 97%. The L24 Display's first region micropattern includes selective breaks
4 in the conductive traces. The L24 Display's first region micropattern has a maximum difference
5 in shadowed area fraction of less than about 25% from the mean shadowed area fraction.

6 32. Accordingly, the Tovis L24 Display, and gaming cabinets including the Tovis
7 L24 Display, literally and/or under the doctrine of equivalents include each element of Claims 14
8 and 22 of the '381 Patent.

9 33. On information and belief, Tovis and SGC have each directly infringed, literally
10 and/or under the doctrine of equivalents, one or more claims of the '494 Patent, including at least
11 Claim 1.

12 34. For example, Claim 1 recites:

13 A touch screen sensor, comprising:

14 a visible light transparent substrate;

15 an electrically conductive micropattern disposed on or in the visible light
16 transparent substrate, the micropattern comprising a first region micropattern within a
17 touch sensing area and a second region micropattern, wherein each of the first region
18 micropattern and the second region micropattern comprise metal traces having a uniform
19 thickness and composition;

20 the first region micropattern comprising a first mesh having a first sheet resistance
21 value in a first direction, being visible light transparent, and having at least 90% open
22 area;

23 the second region micropattern comprising a second mesh different from the first
24 mesh, and having a second sheet resistance value in the first direction,

25 wherein, the first sheet resistance value is different from the second sheet
26 resistance value.
27

1 35. The L24 Display and the L43 Display are touch screen sensors. The L24 Display
2 and the L43 Display's sensors include a visible light transparent substrate, and there is a silver
3 micropattern disposed on or in the visible light transparent substrate. The L24 Display and the
4 L43 Display's micropatterns have a first region micropattern in the touch sensing area as well as
5 a second region micropattern. Each of the first and second micropattern regions in the L24
6 Display and L43 Display's includes a uniform composition of silver traces that have a uniform
7 thickness. The first micropattern region of the L24 Display includes a first mesh that is visible
8 light transparent and has a mean open area percentage of about 97%. The first micropattern
9 region of the L43 Display includes a first mesh that is visible light transparent and has a mean
10 open area percentage of about 93%. The second micropattern regions of the L24 Display and the
11 L43 Display include second meshes that have different trace widths and open area percentages,
12 and therefore different sheet resistance values than their respective first meshes.

13 36. Accordingly, the L24 Display, the L43 Display, and gaming cabinets including
14 the Tovis L24 Display and/or Tovis L43 Display, literally and/or under the doctrine of
15 equivalents include each element of Claim 1 of the '494 Patent.

16 37. On information and belief, Tovis and SGC have each directly infringed, literally
17 and/or under the doctrine of equivalents, one or more claims of the '799 Patent, including at least
18 Claim 10.

19 38. For example, Claim 10 recites:

20 A touch screen sensor, comprising:

21 a visible light transparent substrate;

22 an electrically conductive micropattern disposed on or in the visible light
23 transparent substrate, the micropattern comprising a first region micropattern within a
24 touch sensing area and a second region micropattern, wherein each of the first region
25 micropattern and the second region micropattern comprise metal traces having a uniform
26 thickness and composition;
27

1 the first region micropattern comprising a first mesh having a first sheet resistance
2 value in a first direction, being visible light transparent, and having at least 90% open
3 area; and

4 the second region micropattern comprising a second mesh different from the first
5 mesh, and having a second sheet resistance value in the first direction.

6 39. The L24 Display and the L43 Display are touch screen sensors. The L24 Display
7 and the L43 Display's sensors include a visible light transparent substrate, and there is a silver
8 micropattern disposed on or in the visible light transparent substrate. The L24 Display and the
9 L43 Display's micropatterns have first region micropatterns in the touch sensing area as well as a
10 second region micropatterns. Each of the first and second micropattern regions in the L24
11 Display and L43 Display includes a uniform composition of silver traces that have a uniform
12 thickness. The first region micropattern of the L24 Display includes a first mesh that is visible
13 light transparent and has a mean open area of about 97%. The first region micropattern of the
14 L43 Display includes a first mesh that is visible light transparent and has a mean open area of
15 about 93%. The second micropattern regions of the L24 Display and the L43 Display include
16 second meshes that have different trace widths and open area percentages than their respective
17 first meshes.

18 40. Accordingly, the L24 Display, the L43 Display, and gaming cabinets including
19 the Tavis L24 Display and/or Tavis L43 Display, literally and/or under the doctrine of
20 equivalents include each element of Claim 10 of the '799 Patent.

21 41. On information and belief, Tavis and SGC have each directly infringed, literally
22 and/or under the doctrine of equivalents, one or more claims of the '786 Patent, including at least
23 Claim 1.

24 42. For example, Claim 1 recites:

25 A touch screen sensor, comprising:

26 a visible light transparent substrate;

27

1 an electrically conductive micropattern disposed on or in the visible light
2 transparent substrate, the micropattern including:

3 a visible light transparent conductive mesh region comprising traces that define
4 enclosed open areas; and

5 a region having a larger feature that is not transparent, wherein the visible light
6 transparent conductive mesh region and the region having the larger feature include the
7 same metal at approximately the same thickness.

8 43. The L24 Display and the L43 Display are touch screen sensors. The L24 Display
9 and the L43 Display's sensors include a visible light transparent substrate, and there is a silver
10 micropattern disposed on or in the visible light transparent substrate. The L24 Display and the
11 L43 Display's micropatterns include mesh regions with silver traces that define enclosed open
12 areas. The L24 Display and the L43 Display's micropatterns also include regions with larger
13 features that are not transparent. The mesh regions of the L24 Display and the L43 Display and
14 the regions of the L24 Display and the L43 Display that include the larger features both include
15 silver at about the same mean thickness.

16 44. Accordingly, the L24 Display, the L43 Display, and gaming cabinets including
17 the Tavis L24 Display and/or Tavis L43 Display, literally and/or under the doctrine of
18 equivalents include each element of Claim 1 of the '786 Patent.

19 45. Tavis and SGC have each infringed at least the above referenced claims of the
20 '381 Patent, the '494 Patent, the '799 Patent, and the '786 Patent in violation of 35 U.S.C. §
21 271(a), by manufacturing, using, offering to sell, and selling at least the Accused Products in the
22 United States, and/or importing the Accused Products into the United States.

23 46. 3M has suffered and continues to suffer damages as a result of Defendants'
24 infringement of the '381 Patent, the '494 Patent, the '799 Patent, and the '786 Patent in an
25 amount to be determined at trial.

26 47. Defendants' infringement of the '381 Patent, the '494 Patent, the '799 Patent, and
27 the '786 Patent has damaged and will continue to damage 3M, causing irreparable harm for

1 which there is no adequate remedy at law, unless and until Defendants' infringement is enjoined
2 by this Court.

3 **SGC'S WILLFUL INFRINGEMENT**

4 48. The '381 Patent, the '494 Patent, the '799 Patent, and the '786 Patent are
5 pioneering and groundbreaking inventions in the field of metal mesh touch screen sensors. SGC
6 has been aware of 3M's leadership in this field since at least the summer of 2015, and SGC has
7 had knowledge of the subject matter and claims of the '381 patent since at least that time.

8 49. In April 2018, 3M provided SGC an overview of the '381 Patent, the '494 Patent,
9 the '799 Patent, and the '786 Patent, as well as summaries of test results demonstrating the
10 correspondence between certain claims of the '381 Patent, the '494 Patent, the '799 Patent, and
11 the '786 Patent, and features found in the Tovis L24 Display, which is used in SGC's TwinStar
12 product. In April 2018, 3M also provided SGC summaries of test results demonstrating the
13 correspondence between certain claims of the '494 Patent, the '799 Patent, and the '786 Patent,
14 and features found in the Tovis L43 Display, which is used in TwinStar J43 product. Thus, SGC
15 knew or should have known of the '381 Patent, the '494 Patent, the '799 Patent, and the '786
16 Patent, and the infringement of those patents by the TwinStar and TwinStar J43 products, no
17 later than April 2018.

18 50. By deciding to sell and continuing to sell gaming cabinets including the Tovis
19 L24 Display and Tovis L43 Display despite knowing of the '381 Patent, the '494 Patent, the '799
20 Patent, and the '786 Patent, and without authority from 3M, SGC recklessly disregarded 3M's
21 rights in the '381 Patent, the '494 Patent, the '799 Patent, and the '786 Patent and willfully
22 infringed the '381 Patent, the '494 Patent, the '799 Patent, and the '786 Patent. SGC's conduct
23 is sufficiently egregious to warrant an award of enhanced damages pursuant to 35 U.S.C. § 284.

24 **PRAYER FOR RELIEF**

25 WHEREFORE, 3M prays for the following judgment and relief against Tovis and SGC:

26 1. A judgment that Tovis has infringed and is infringing the '381 Patent, the '494
27 Patent, the '799 Patent, and the '786 Patent;

2. A judgment that SGC has infringed and is infringing the ‘381 Patent, the ‘494 Patent, the ‘799 Patent, and the ‘786 Patent;

3. A judgment that SGC’s infringement was and is willful;

4. A permanent injunction against Tovis and its affiliates, subsidiaries, assigns, employees, agents, or anyone acting in privity or concert with Tovis, from infringing the ‘381 Patent, the ‘494 Patent, the ‘799 Patent, and the ‘786 Patent;

5. A permanent injunction against SGC and its affiliates, subsidiaries, assigns, employees, agents, or anyone acting in privity or concert with SGC, from infringing the ‘381 Patent, the ‘494 Patent, the ‘799 Patent, and the ‘786 Patent;

6. An award of all damages adequate to compensate 3M for Tovis’ patent infringement, such damages to be determined by a jury, and if necessary an accounting adequate to compensate 3M for the infringement;

7. An award of all damages adequate to compensate 3M for SGC’s patent infringement, such damages to be determined by a jury, and if necessary an accounting adequate to compensate 3M for the infringement;

8. An award of enhanced damages, including up to three times the amount found or assessed, based on SGC’s willful infringement;

9. An award of pre-judgment and post-judgment interest at the maximum rate allowed by law;

10. An order finding that this is an exceptional case and awarding 3M its costs, expenses, disbursements, and reasonable attorneys’ fees under 35 U.S.C. § 285 and all other applicable statutes, rules, and common law; and

11. Such other relief, in law or equity, as this Court deems just and proper.

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DEMAND FOR JURY TRIAL

3M hereby demands a jury trial on any and all issues appropriately triable before a jury.

DATED this 20th day of August, 2018.

SANTORO WHITMIRE

/s/ Jason D. Smith

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